

Proceedings of the 3rd International Conference on Computational Systems-Biology and Bioinformatics (CSBio 2012)

Preface: Computational Systems-Biology and Bioinformatics

Jonathan H. Chan^{a*}, Asawin Meechai^b, Chee Keong Kwoh^c

^a*School of Information Technology, King Mongkut's University of Technology Thonburi, Thung Khru, Bangkok, 10140*

^b*Department of Chemical Engineering, King Mongkut's University of Technology Thonburi, Thung Khru, Bangkok, 10140*

^c*School of Computer Engineering, Nanyang Technological University, Nanyang Avenue, Singapore, 639798*

Abstract

Systems biology and bioinformatics are widely recognized as the fields of biological science that have been developed very rapidly in this century. In these fields, there is a much-needed development of computational tools to deal with a monumental amount of genomic and post-genomic data, aiming at systems-level understanding in biology. The Third International Conference on Computational Systems-Biology and Bioinformatics (CSBio 2012) was organized to provide scientists and researchers in the area of computational systems biology and bioinformatics with a forum to share and exchange their knowledge and experiences. Besides, CSBio 2012 was the venue for all participants to survey the current status of development of research works on the application of computational systems biology and bioinformatics in the biotechnological fields: agriculture, energy and environment, as well as medicine. CSBio 2012 was co-organized by King Mongkut's University of Technology, Thonburi (KMUTT) and the National Center of Genetic Engineering and Biotechnology (BIOTEC), and it was held on October 3-5, 2012, at the Centara Grand, Central Plaza Ladprao, Bangkok, Thailand.

© 2012 The Authors. Published by Elsevier B.V. Open access under [CC BY-NC-ND license](#).

Selection and/or peer-review under responsibility of the Program Committee of CSBio 2012.

Keywords: systems biology, bioinformatics, computations, CSBio 2012

1. Introduction

This book is the proceedings of The 3rd International Conference on Computational Systems-Biology and Bioinformatics (CSBio 2012). It comprises of 16 accepted papers from a total of 37 submissions received on the EasyChair conference system. Each submission was reviewed by at least three program committee

* Corresponding author. Tel.: +66 24709819.

E-mail address: jonathan@sit.kmutt.ac.th.

members. The authors of the submitted papers covered 14 countries worldwide and there were over 45 authors in the conference proceedings. The event was collocated with the 11th International Conference on Bioinformatics (InCoB 2012) and the 2012 Winter Conference of the International Neural Networks Society (INNS-WC 2012). Technical highlights included joint keynote/plenary speakers with InCoB2012. In addition, there were four pre-conference tutorials offered jointly with InCoB2012.

2. Organization

2.1. Organizers

King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand;
National Center for Genetic Engineering and Biotechnology (BIOTEC),
National Science and Technology Development Agency (NSTDA), Thailand.

2.2. Technical co-sponsors

International Neural Network Society (INNS)
Thailand Chapter of ACM

2.3. Conference committee

Honorary Chair:

Sakarindr Bhumiratana, Thailand

International Advisory Board:

David W. Ussery, Denmark
Jens B. Nielsen, Sweden
Kwong-Sak Leung, Hong Kong
Nikola Kasabov, New Zealand
Richard Wintle, Canada
Stephen Wong, USA
Supapon Cheevadhanarak, Thailand
Yaochu Jin, UK

Ong Yew Soon, Singapore
Kay Chen Tan, Singapore
Nikhil R. Pal, India
Bairong Shen, China
Sissades Tongsima, Thailand
Sung-Bae Cho, Korea
Tom Lenaerts, Belgium

Local Steering Committee:

Nipon Charoenkitkarn, Thailand
Prasert Kanthamanon, Thailand
Narumon Jeyashoke, Thailand
Marasri Ruengjitchatchawalya, Thailand

General Co-Chairs:

Jonathan H. Chan, Thailand
Asawin Meechai, Thailand

Program Chair:

Chee Keong Kwoh, Singapore

Publicity Chairs:

Kyung-Joong Kim, Korea
Wanwipa Vongsangnak, China

| | |
|---------------------------------|---|
| <i>Competitions Chairs:</i> | Chee Peng Lim, Malaysia Weng Kin Lai, Malaysia |
| <i>Local Organizing Chair:</i> | Olarn Rojanapornpun, Thailand |
| <i>Local Arrangement Chair:</i> | Wannida Soontreerutana, Thailand |
| <i>Conference Secretariat:</i> | Somkid Bumee, Thailand |
| <i>Webmaster:</i> | Worrawat Engchuan, Thailand |

2.4. Program committee

| | |
|---------------------------------|-----------------------------------|
| Asawin Meechai, Thailand | Ming Zhan, USA |
| Bairong Shen, China | Nikhil Pal, India |
| Bartosz Krawczyk, Poland | Rafal Adamczak, Poland |
| Bunthit Watanapa, Thailand | Sang-Bae Cho, Korea |
| Chee Keong Kwoh, Singapore | Santitham Prom-on, Thailand |
| Chinae Thammarongtham, Thailand | Saowalak Kalapanulak, Thailand |
| Chiraphan Khannapho, Thailand | Somnuk Phon-Amnuaisuk, Malaysia |
| Chuan-Kang Ting, Taiwan | Teeraphan Laomettachit, Thailand |
| Daniele Merico, Canada | Tom Lenaerts, Belgium |
| David Ussery, Denmark | Treenut Saithong, Thailand |
| Dianhui Wang, Australia | Vladmir Brusic, USA |
| Frank Eisenhaber, Singapore | Wanwipa Vongsangnak, China |
| Jean-Paul Comet, France | Weerayuth Kittichotirat, Thailand |
| Jittima Piriyaongsa, Thailand | Weng Kin Lai, Malaysia |
| Jittisak Senachak, Thailand | Worawat Engchuan, Thailand |
| Jonathan Chan, Thailand | Yaochu Jin, UK |
| Kyung-Joong Kim, Korea | Zexaun Zhu, China |
| Lipo Wang, Singapore | |

2.5. Additional reviewers

Preecha Patumcharoenpol, Naruemol Doungtan, Xuchang Ouyang

Acknowledgements

We gratefully acknowledge the members of the CSBio2012 International Advisory Board for their advice and assistance in the organization and promotion of the conference. We are also thankful to the Program Committee and additional reviewers for their help in reviewing the submitted papers in a timely manner. Furthermore, we would like to express our sincere appreciation to the staff of the Training Unit of BIOTEC and School of Information Technology who helped to facilitate and organize this conference. Last but not least, the organizers gratefully acknowledge the contributions and support from all speakers and authors, as well as all other participants and contributors, in making CSBio2012 a successful conference.